

Homework.

1. Choose a partner to complete this assignment. Make sure you have each other's email address or cell phone number so you can be in contact.
2. Read the handout about Experimental Design.
3. Design an experiment of your choosing.

For example:

What is the effect of temperature on bacteria growth rate?

What are the effects of alcohol on the human body?

Which factors affect the growth of a tomato plant the most?

4. Describe your experiment in one or more paragraphs. You may choose to include your own drawings with your experiments (NOT from Baidu images!)
5. Answer the following questions:
 - a. What qualitative or quantitative observations would you expect to make?
 - b. What would your hypothesis be?
 - c. What do you predict would happen?
 - d. How could you ensure your experiment is reliable and valid?
 - e. What is the control?
 - f. What is the independent variable?
 - g. What is the dependent variable?

Science Experiment : Experimental Design

Teacher Name: Mr. Heard

Student Name: _____

CATEGORY	4	3	2	1
Peer Evaluation	Student provided excellent analysis and suggestions to another group about their project	Student provided good analysis and suggestions to another group about their project	Student provided so-so analysis and suggestions to another group about their project	Student provided poor analysis and suggestions to another group about their project
Description of Procedure	Procedures were outlined in a step-by-step fashion that could be followed by anyone without additional explanations.	Procedures were outlined in a step-by-step fashion that could be followed by anyone with minor explanations.	Procedures were outlined in a step-by-step fashion, but had 1 or 2 gaps that require explanation.	Procedures that were outlined were seriously incomplete or not sequential, even after adult feedback had been given.
Hypothesis Development	Hypothesis was well developed and reasonable	Hypothesis was fairly well developed and reasonable	Hypothesis was somewhat well developed and reasonable	Hypothesis was poorly developed or was completely absent
Diagrams	Provided an accurate, easy-to-follow diagram with labels to illustrate the procedure or the process being studied.	Provided an accurate diagram with labels to illustrate the procedure or the process being studied.	Diagrams were incomplete or unlabeled.	No diagram(s) present.
Variables	All variables clearly defined and outlined in experiment	Variables defined but not perfectly clear	Some confusion about which variable is which	Variables mixed up or not mentioned